

REMARKS

This paper is being provided in response to the Office Action dated April 2009, for the above-referenced application. In this response, Applicants have amended claims 17, 25 and 35 to clarify that which Applicants consider to be the presently-claimed invention. Applicants respectfully submit that the amendments to the claims are fully supported by the originally-filed specification, consistent with the discussion herein.

Applicants thank the Examiner for the indication of allowable subject matter in claims 23, 31 and 39.

As an initial matter, on pages 2 and 3 of the Office Action, the Office Action indicates that it is responding to "Arguments filed 5/28/09". However, Applicants last response was filed by Applicants on January 25, 2010. It is somewhat unclear whether Applicants amendments and arguments from this last response have been adequately considered.

The rejection of claims 17, 25 and 35 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,090,011 to Fukuta (hereinafter "Fukuta") in view of U.S. Patent No. 5,400,329 to Tokura (hereinafter "Tokura") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

Independent claim 17, as amended herein, recites a station for receiving a message from a first interconnected station on an input side and transmitting message information relating to the received message to a second interconnected station on an output side. Response means is

included for returning a response to a request to receive and accept the message, the request being sent from the first interconnected station, wherein the response to the request to receive and accept the message indicates whether the message was received and accepted. Congestion detection means is coupled to the response means and is for detecting that congestion has occurred in the second interconnected station, wherein, when occurrence of congestion is detected by said congestion detection means, said response means conducts congestion control by delaying the response to the request to receive and accept said message from being transmitted to the first interconnected station for a prescribed delay time, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station. Claims 18-24 and new claim 34 depends directly or indirectly from independent claim 17.

Independent claim 25, as amended herein, recites a station for receiving a message from a first interconnected station on an input side and transmitting message information relating to the received message to a second interconnected station on an output side. Response means is included for returning a response to a request to receive and accept the message, the request being sent from the first interconnected station, wherein the response to the request to receive and accept the message indicates whether the message was received and accepted. Congestion detection means is coupled to the response means and which detects the occurrence of congestion in the station when the filling ratio in a buffer memory that stores said messages or received requests that have not been completely processed exceeds a prescribed filling ratio, wherein, when the occurrence of congestion in the station is detected by said congestion

detection means, said response means conducts congestion control by delaying the response to the request to receive and accept said message from being transmitted to the first interconnected station, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station. Claims 26-33 depend directly or indirectly from independent claim 25.

Independent claim 35, as amended herein, recites a station for receiving a message from a first interconnected station on an input side and transmitting message information relating to the received message to a second interconnected station on an output side. A response unit sends a response to a request to receive and accept the message, the request being sent from the first interconnected station, wherein the response to the request to receive and accept the message indicates whether the message was received and accepted. A congestion detector, coupled to the response unit, detects whether congestion has occurred in the second interconnected station, wherein, when occurrence of congestion is detected by the congestion detector, the response unit conducts congestion control by delaying the response to the request to receive and accept the message from being transmitted to the first interconnected station for a prescribed delay time, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station. Claims 36-40 depend directly or indirectly from independent claim 35.

Fukuta discloses a packet congestion control method and packet switching equipment. When a packet congestion is detected in association with any one of a plurality of output lines, a congestion indicator is added to a packet to be delivered to the output line so as to return the packet as a congestion notice packet to the transmission source equipment, and the input packet is relayed via the output line to the destination equipment. (See, e.g., Fig. 12, 13 and 16 of Fukuta.)

Tokura discloses a packet network and method for congestion avoidance in packet networks. The Office Action cites to Tokura as disclosing delay for transmitting data according to a destination appointed shorter window width and decreasing a transfer rate by setting a packet transmission interval, citing to col. 10, lines 18-27 and FIGS. 1A-C and 2A-C of Tokura.

It is stated in the Office Action (page 2) that: "Applicant is merely claiming a 'response' that 'provides a delay time' so that congestion may be alleviated." This statement is demonstrably inaccurate and is, indeed, a somewhat glaring mischaracterization of Applicants' recited features. Applicants point out that the "response" recited by Applicants does not "provide the delay time" as is stated by the Examiner. Rather, the response *is delayed by a prescribed delay time* in order to provide congestion control. Applicants' recited response is a response to a request to receive and accept a message. Applicants have further clarified that the response, that is a response to the request to receive and accept the message, indicates whether the message was received and accepted. Applicants submit these amendments attempt to address the statements in the Office Action that, despite the language in the claims and prior arguments, continue to indicate Applicants' recited response as being considered akin to a congestion notice instead of

like an acknowledgement of receipt and acceptance of message/data. Applicants believe this issue is now definitely addressed, and that it should be explicitly clear that the response to the request to receive and accept a message is responding to that request and indicates whether the message was received and accepted and that the response, itself, is what is delayed by the prescribed delay time according to the features recited by Applicants.

Applicants further point out that the statement in the Office Action (page 4) that "there is no relationship being made between a "response" and Fukuta's "acknowledgement packet" and "monitoring packet" is confusing. Applicants' claim language cannot, nor should it, specify "Fukuta's acknowledgement packet and 'monitoring packet" in recitation of Applicants' claims. However, Fukuta's acknowledgement packet or monitoring packet appear akin, in the discussion of the functionality of these packets, to a response, like that recited by Applicants, that responds to the request to receive and accepted the message and indicates whether the message was received and accepted. Fukuta is explicit in stating that his system does not involve the use of acknowledgement packets and monitoring packets in congestion control, and, accordingly, Fukuta does not disclose delaying a response to the request to receive and accept the message to provide congestion control like that recited by Applicants. Fukuta discloses the use of a congestion notice and congestion cease notice that are extensively cited in the Office Action, but which have nothing to do with the features like that recited by Applicants involving the delaying of the response to the request to receive and accept the message in order to provide congestion control.

The Office Action (page 2) summarizes Applicants' arguments about Fukuta as Fukuta not providing "the equivalent 'response' or '*notification of congestion*'" (emphasis added); and then concludes the "Fukuta specifically does provide 'notification' and 'a response' during the occurrence of congestion." As discussed in detail herein, the Office Action appears to confusing the disclosure of a congestion notice as is described by Fukuta, with a response to a request to receive and accept a message as is recited by Applicants. Fukuta's disclosure of a notice about congestion that is sent to data transmission sources has nothing to with the delay of responses to requests to receive and accept messages as is recited by Applicants.

The Office Action (page 2) that Applicant is "in no way claiming an acknowledgement packet in the claim." Applicant submits that, despite this inaccurate assertion, Applicant's response to the request to receive and accept the message is akin to an acknowledgement. It is unclear to Applicants how the Office Action concludes that: "In the arguments applicant does not equate the 'response' of the instant invention to a 'acknowledgement packet' or a 'monitoring packet'." Fukuta uses the terms "acknowledgement" or "monitoring" packet. Applicants use the terms "response to a request to receive and accept the message." Functionally and structurally, a response to a request to receive and accept the message is akin to an acknowledgment of whether the message was received and accepted. Applicants have added further clarifying language to the claims on this issue, specifically reciting that the response to the request to receive and accept the message indicates whether the message was received and accepted. Moreover, Applicants submit that Fukuta's congestion notice that is cited in the Office Action, in particular, does not equate in any way with Applicants' response, since, structurally and functionally, Fukuta's congestion notice is entirely different from the response recited by Applicants and discussed in

detail herein. Applicant submits that none of the prior art, taken alone or in any combination, discloses the features of delaying a response to a request to receive and accept the message for a prescribed delay time according to the features like that recited by Applicants.

The Office Action cites to Fukuta's congestion notice as a "response" to congestion; however, as Applicants have previously pointed out, and further clarified with amendments herein, Applicants' recited response responds to a request to receive and accept a message and indicates whether the message was received and accepted. Unlike Fukuta's disclosure of a congestion notice to specifically provide congestion information of a communication system to a data transmission sources, Applicants' recited features provide for delaying the response to the request to receive and accept the message by a prescribed delay time in order to provide congestion control. Specifically, Applicants recite that the response means conducts congestion control by delaying the response to the request to receive and accept said message (the request being sent from the first interconnected station) from being transmitted to the first interconnected station for a prescribed delay time, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station. These features are clearly distinct from the use of a congestion notice that is generated and, itself, contains information about congestion of a communication system that is transmitted to data transmission sources, as is described by Fukuta. Fukuta sends the congestion notice that contains congestion information that is received by the data transmission sources and is then used to provide congestion control, whereas Applicants' delay responses to requests to receive and accept

messages (i.e. delay acknowledgements of messages/data being received and accepted) by a prescribed delay time to provide congestion control.

In his background section, Fukuta describes issues involving transmitting congestion information to the transmission source packet communication packet in the acknowledgment packet that is sent to the transmission source packet communication packet, thereby allowing the transmission source to use that congestion information to restrict the packet flow rate of packets transmitted onto the information channel. (See, for example, col. 1, lines 57 to col. 2, line 9). Fukuta identifies flaws in that system and then, as noted above, proposes a system that specifically avoids the use of an acknowledgement packet (and/or the use of a monitoring packet). Fukuta's system proceeds to disclose the use of congestion and congestion cease notices that contain congestion information that is sent to transmission sources in order to control congestion. Accordingly, Fukuta is totally silent (nor in any way suggestive) of anything having to do with delaying a response to a request to receive and accept a message, and specifically in which delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station, like that recited by Applicants.

Thus, Applicants again dispute comments like that on page 8 of the Office Action that indicate "POLLING" and "CONGESTION" are somehow suggestive or otherwise indicative of delay times like that recited by Applicants. Fukuta in no way suggests, in any form, delaying a response to a request to receive and accept a message like that recited by Applicants. Fukuta explicitly discloses the use of congestion notices and congestion cease notices, that contain

congestion information, and which are sent to data transmission sources in order to provide for control congestion. The "POLLING" and "CONGESTION" terms noted by the Examiner in Fukuta concern Fukuta's determination of congestion information which is then contained in a congestion notice or a congestion cease notice that is sent to data transmission sources. These terms having nothing to with, nor are they "suggestive" of, delaying responses to requests to receive and accept messages like that recited Applicants. Moreover, Applicants specifically recite that delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station. Since, as noted in the Office Action (page 8) that "Fukuta does not refer to 'delay' throughout his document" it seems clear that Fukuta does not disclose the features recited by Applicants that use delay of response to requests to receive and accept messages in order to provide congestion control.

Under Applicants' claimed system, the rate at which messages are transmitted from the upstream station (first interconnected station) is controlled by a response sent from the presently-claimed station to a Receive & Accept request from the upstream station (first interconnected station). The presently-claimed station detects congestion at the downstream station (second interconnected station) and, in response to the detection of congestion downstream, the presently-claimed station delays the response sent to the upstream station (first interconnected station) that is sent in response to the Receive & Accept request. (See, for example, page 4, line 18 to page 5, line 11 and Fig. 4 of the originally-filed specification.) With the above-noted system, as recited by Applicants, when congestion occurs on the output side of the presently-claimed station, the delay in transmitting the response to the receive and accept request for the

prescribed delay time causes a reduction in message throughput on the input side of the presently-claimed station from the first interconnected station. (See, for example, second full paragraph on page 10 and second full paragraph on page 17 of the originally-filed specification).

Accordingly, Fukuta does not teach or fairly suggest the above-noted features recited by Applicants and Applicants maintain that Fukuta's discussion of polling during a congestion period does not teach or fairly suggest the congestion control by delaying a response to the request to receive and accept said message for a prescribed delay time, and that, indeed, Fukuta's system is specifically designed to avoid the use of a response to request to receive and accept a message that indicates whether the message was received and accepted. As discussed above, Fukuta's system does not disclose anything have to do with delaying a response, particularly wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station, as recited by Applicants.

Applicants submit that the addition of Tokura does not overcome the above-noted deficiencies of Fukuta with respect to the presently-claimed invention. Applicants refer first to the above-noted discussion of the Fukuta in which it is noted that Fukuta explicitly teaches away from the use of an acknowledgement packet/monitoring packet/response that responds to a request to receive and accept a message in connection with congestion control, let alone anything have to do with delaying such a response. Fukuta discloses an entirely different system for congestion control using congestion notices and congestion cease notices and, despite suggestions otherwise in the Office Action, Fukuta's congestion notices have nothing to do with

responses to requests to receive and accept a message like that recited by Applicants, nor would they suggest anything like this in Fukuta, since Fukuta has expressly made clear that his system is not directed to the use of acknowledgement packets or monitoring packets that would be used to acknowledge or monitor the receipt and acceptance of transmitted messages/data in connection with congestion control. Accordingly, regardless of Tokura's disclosure, the proposed combination of Tokura to attempt to overcome deficiencies of Fukuta is not an appropriately motivated combination when the noted deficiencies of Fukuta are present because of explicit statements in Fukuta that teach away from the combination of features from references that are proposed by the Office Action.

Moreover, Applicants' note that the Office Action cites to Tokura's disclosure of setting a packet transmission interval to control a packet transfer rate, but submit that this disclosure in Tokura, and any other disclosure therein, is silent as to controlling congestion by delaying the response to the request to receive and accept said message from the first interconnected station for a prescribed delay time, as is recited by Applicants. That is, Tokura refers to delaying transmission of a packet according to a packet transmission interval but is wholly silent as to any disclosure of delaying a response to a receive and accept request from being transmitted to a first interconnected station (the source of the request) like that recited by Applicants. Tokura's system controls packet transfer according to a predicted congestion in the future at the source of the packet transmission. This is specifically evident from the citations to Tokura in the Office Action which explicitly discuss the determination of a packet transmission interval based on the prediction of congestion. It has nothing to do with the features of congestion control like that recited by Applicants, specifically congestion control by delaying the response to the request to

receive and accept said message from being transmitted to the first interconnected station for a prescribed delay time, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station.

Even for sake of argument, Tokura could be combined with Fukuta, such a combination might, at best, provide for the inclusion of Tokura's packet interval information in the information of the congestion notice that is sent to the data transmission sources in Fukuta. However, this does not disclose the delaying of responses to requests to receive and accept message as recited by Applicants, and specifically does not disclose a response means that conducts congestion control by delaying the response to the request to receive and accept said message from being transmitted to the first interconnected station for a prescribed delay time, wherein delaying transmission of the response to the first interconnected station by the prescribed delay time causes a reduction in message throughput received by the station on the input side from the first interconnected station.

Although the above-noted arguments are discussed principally in connection with features of independent claim 17, Applicants submit that the other independent claims 25 and 35, and claims depending therefrom, contain similar features and, thus, the above-noted remarks apply equally to these claims. Accordingly, Applicants respectfully submit that Fukuta and Tokura, taken alone or in appropriate combination, do not teach or fairly suggest at least the above-noted features as claimed by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claims 19, 20, 27, 28, 37 and 38 under 35 U.S.C. 103(a) as being unpatentable over Fukuta in view of Tokura and further in view of JP 2002-185500 to Shozo (hereinafter "Shozo") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of independent claims 17, 25 and 35 are discussed above with respect to Fukuta and Tokura. Claims 19, 20, 27, 28, 37 and 38 depend therefrom.

Shozo discloses a communication system and determining method for setting and updating proper alternative routes in a standard network system for eliminating congestion. The Office Action cites to Shozo in connection with features involving switching means and the use of a plurality of interconnecting stations, citing to paragraphs 0016-0025 of Shozo.

Applicants respectfully submit that Shozo does not overcome the above-noted deficiencies of Fukuta and Tokura with respect to Applicants' presently-claimed invention. Shozo does not disclose, nor is Shozo cited in the Office Action in connection with, Applicants' recited features that are discussed above with respect to Fukuta and Tokura. Accordingly, Applicants respectfully submit that Fukuta, Tokura and Shozo, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claims 21, 22, 29 and 30 under 35 U.S.C. 103(a) as being unpatentable over Fukuta in view of Tokura and further in view of SMS Forum, "Short Message Peer to Peer Protocol Specification" (hereinafter "SMS Forum") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of independent claims 17 and 25 are discussed above with respect to Fukuta and Tokura. Claims 21, 22, 29 and 30 depend therefrom.

SMS Forum discloses a short message peer-to-peer (SMPP) protocol. The Office Action cites to as disclosing flow control and congestion avoidance including the use of an error and/or a parameter concerning a congestion state, citing principally to page 43 of SMS Forum.

Applicants respectfully submit that SMS Forum does not overcome the above-noted deficiencies of Fukuta and Tokura with respect to Applicants' presently-claimed invention. SMS Forum does not disclose, nor is SMS Forum cited in the Office Action in connection with, Applicants' recited features that are discussed above with respect to Fukuta and Tokura. Accordingly, Applicants respectfully submit that Fukuta, Tokura and SMS Forum, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claims 18, 24, 26, 32, 36 and 40 under 35 U.S.C. 103(a) as being unpatentable over Fukuta in view of Tokura and further in view of U.S. Patent No. 5,757,772 to

Thornberg (hereinafter "Thornberg") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

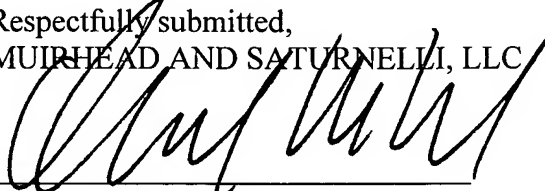
The features of independent claims 17, 25 and 35 are discussed above with respect to Fukuta and Tokura. Claims 18, 24, 26, 32, 36 and 40 depend therefrom.

Thornberg discloses a method and system for packet switched radio channel traffic supervision. The Office Action cites to Thornberg as disclosing congestion evaluation use average response times and margin ratios, citing principally to col. 2, lines 18-31, col. 16, lines 47-57 and FIGS. 8A and 11 of Thornberg.

Applicants respectfully submit that Thornberg does not overcome the above-noted deficiencies of Fukuta and Tokura with respect to Applicants' presently-claimed invention. Thornberg does not disclose, nor is Thornberg cited in the Office Action in connection with, Applicants' recited features that are discussed above with respect to Fukuta and Tokura. Accordingly, Applicants respectfully submit that Fukuta, Tokura and Thornberg, taken alone or in any combination, do not teach or fairly suggest at least the above-noted features as recited by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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